U.S. Application No. 09/826,188
Response to Office Action dated June 2, 2005

Listing of the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1.   (Currently Amended) A data converter for converting print data transmitted from a printing control unit to a printing unit via a serial bus the data converter comprising:

receiving means for receiving moving picture data representative of a plurality of sequential images and for selecting a desired image therefrom;

judging means for detecting print data specifying information included in a print data transmitting command supplied from the printing control unit for the desired image, and judging, based on the detected print data the type of the print data transmitted from the printing control unit; and

conversion controlling means for converting, according to the result of the judgment made by the judging means, the print data transmitted from the printing control unit to the printing unit to print data of a type supported by the printing unit, and outputting the converted print data to the printing unit;

wherein the judging means and the conversion controlling means provide printing support when there is no printer driver compatible with the printer as a target at the printing controller unit.

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2.   (Original) The data converter according to claim 1, wherein the serial bus

is a one conforming to the IEEE (Institute of Electrical and Electronics Engineers) 1394

standard.

3.   (Previously Presented) The data converter according to claim 1, wherein

the judging means judges based on the print data specifying information including a type of

page-description language of the print data; and

the conversion controlling means converts, according to the result of the judgment

made by the judging means, the print data transmitted from the printing control unit to print data

in a type of page-description language supported by the printing unit.

4.   (Previously Presented) The data converter according to claim 3, wherein

the judging means judges, based on the print data specifying information, whether the print data

transmitted from the printing control unit is video data or data described in a page-description

language, and

when the print data transmitted from the printing control unit has been judged to

be video data, the conversion controlling means outputs the video data as it is to the printing unit

while when the print data transmitted from the printing control unit has been judged to be data

described in a page-description language, the conversion controlling means converts the print

data transmitted from the printing control unit to print data in a type of page-description

language supported by the printing unit.

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5.   (Currently Amended) A data converting method for converting print data transmitted from a printing control unit to a printing unit via a serial bus, the method comprising:

a receiving step for receiving moving picture data representative of a plurality of sequential images and for selecting a desired image therefrom;

a first step of inputting, from the printing control unit, a print data transmitting command indicating that the print data is going to be transmitted from the printing control unit to the printing unit;

a second step of detecting print data specifying information included in the supplied print data transmitting command;

a third step of judging, based on the selected desired image, a type of the print data transmitted from the printing control unit;

a fourth step of converting, according to the result of the judgment effected in the third step, the print data transmitted from the printing control unit to print data of a type supported by the printing unit; and

a fifth step of outputting the converted print data to the printing unit;

wherein the third step and the fourth step provide printing support when there is no printer driver compatible with the printer as a target at the printing controller unit.

6.   (Original) The data converting method according to claim 5, wherein the serial bus is a one conforming to the IEEE 1394 standard.

7.   (Original) The data converting method according to claim 5, wherein the type of the print data in the third step is a type of page-description language of the print data; and

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the print data of the type supported by the printing unit in the fourth step is print

data in a type of page-description language supported by the printing unit.

8.   (Previously Presented) The data converting method according to claim 7,

further comprising steps of: -

judging, based on the print data specifying information, whether the print data

transmitted from the printing control unit is video data or data described in a page-description

language; and

outputting the print data transmitted from the printing control unit, having been

judged to be video data, as it is to the printing unit, while converting the print data transmitted

from the printing control unit, having been judged to be data described in a page-description

language, to print data in a type of page-description language supported by the printing unit.

9.   (Currently Amended) A printer comprising:

receiving means for receiving moving picture data representative of a plurality of

sequential images and for selecting a desired image therefrom;

a printing means for printing using print data;

an input/output means to which the print data and a control command are supplied

from a printing control unit via a serial bus;

a judging means for detecting selected image data specifying information

included in a print data transmitting command supplied to the input/output means and judging,

based on the detected selected image data specifying information, an image type of the print data

transmitted from the printing control unit;

means for converting, according to the result of the judgment, the supplied print

data from a type transmitted by the printing control unit to print data of a type supported by the

printing means; and

means for controlling the printing means to print using the converted print data

from the converting means;

wherein the judging means and the conversion controlling means provide printing

support when there is no printer driver compatible with the printer as a target at the printing

controller unit.

10.   (Original) The printer according to claim 9, wherein the serial bus is a one

conforming to the IEEE (Institute of Electrical and Electronics Engineers) 1394 standard.

11.   (previously presented) The printer according to claim 9, wherein the

judging means judges, based on the selected image data specifying information the type of the

page-description language of the print data.

12.   (previously presented) The printer according to claim 11, wherein the

judging means judges, based on the selected image data specifying information, whether the

print data transmitted from the printing control unit is video data or data described in a page-

description language; and

when the print data transmitted from the printing control unit has been judged to

be video data, the conversion controlling means outputs the video data as it is to the printing

means, while when the print data transmitted from the printing control unit has been judged to be

data described in a page-description language, the conversion controlling means converts the print data transmitted from the printing control unit to print data in a type of page-description language supported by the printing means.

13.   (currently amended) A printing method comprising:

receiving moving picture data representative of a plurality of sequential images and for selecting a desired image therefrom;

a first step of detecting selected image data specifying information included in a print data transmitting command transmitted from a printing control unit via a serial bus and judging, based on the detected specifying information, an image type ;

a second step of inputting the print data from the printing control unit via the serial bus and converting, according to the result of the judgment, the supplied print data from a type supplied by the printing control unit to print data of a type supported by a printing unit; and

a third step of printing using the converted print data;

wherein the first step and the second step provide printing support when there is no printer driver compatible with the printer as a target at the printing controller unit.

14.   (original) The printing method according to claim 13, wherein the serial bus is a one conforming to the IEEE 1394 standard.

15.   (previously presented) The printing method according to claim 13, wherein the type of the print data in the third step is a type of page-description language of the print data; and

the print data of the type supported by the printing unit in the third step is print

data in a type of page-description language supported by the printing unit.

16.   (previously presented) The printing method according to claim 15, further

comprising steps of:

judging, based on the selected image data specifying information, whether the

print data transmitted from the printing control unit is video data or data described in a page-

description language; and

outputting the print data transmitted from the printing control unit, having been

judged to be video data, as it is to the printing unit, while converting the print data transmitted

from the printing control unit, having been judged to be data described in a page-description

language, to print data in a type of page-description language supported by the printing unit.

17.   (currently amended) A printing control unit comprising:

means for receiving moving picture data representative of a plurality of sequential

images and for selecting a desired image therefrom;

means for generating print data for use by a printing unit connected via a serial

bus;

an input/output means for outputting a control command to control the printing

unit and the print data to the printing unit via the serial bus;

means for generating a print data transmitting command including selected image

data specifying information indicative of a type of the print data transmitted to the printing unit;

and

means for controlling the input/output means to output to the printing unit print data of a type indicated by the selected image data specifying information included in the print data transmitting command generated by the command generating means;

wherein the means for generating and the means for controlling provide printing support when there is no printer driver compatible with the printer as a target at the printing controller unit.

18.   (original) The printing control unit according to claim 17, wherein the serial bus is a one conforming to the IEEE 1394 standard.

19.   (previously presented) The printing control unit according to claim 17, wherein the command generating means generates a print data transmitting command including selected image data specifying information for use to identify the type of a page-description language corresponding to a manufacturer of the printing unit.

20.   (original) The printing control unit according to claim 17, wherein the command generating means generates a print data transmitting command including print data specifying information for use to identify the type of a page-description language corresponding to a type of the printing unit.

21.   (previously presented) The printing control unit according to claim 17, wherein the command generating means generates a print data transmitting command including

selected image data specifying information for use to judge whether the print data transmitted to the printing unit is video data or data described in a page-description language.

22.   (currently amended) A printing controlling method in which data to be printed by a printing unit connected via a serial bus is outputted to the printing unit, the method comprising:

receiving moving picture data representative of a plurality of sequential images and for selecting a desired image therefrom;

a first step of generating a print data transmitting command including selected image data specifying information indicative of a type of the print data transmitted to the printing unit and outputting the print data transmitting command to the printing unit; and

a second step of transmitting, to the printing unit, print data of a type indicated by the selected image data in the print data transmitting command;

wherein the first step and the second step provide printing support when there is no printer driver compatible with the printer as a target at the printing controller unit.

23.   (original) The printing controlling method according to claim 22, wherein the serial bus is a one conforming to the IEEE 1394 standard.

24.   (previously presented) The printing controlling method according to claim 22, wherein the selected image data specifying information indicative of the type of print data in the first step is print data specifying information for use to identify a type of a page-description language corresponding to a manufacturer of the printing unit.

25.   (original) The printing controlling method according to claim 22, further comprising a step of:

generating a print data transmitting command including print data specifying information for use to identify the type of a page-description language corresponding to the type of the printing unit.

26.   (previously presented) The printing controlling method according to claim 22, further comprising a step of:

generating a print data transmitting command including selected image data specifying information for use to judge whether the print data outputted to the printing unit is data described in a page-description language or video data.

27.   (currently amended) A printing system comprising:

a printing control unit including:

means for receiving moving picture data representative of a plurality of sequential images and for selecting a desired image therefrom;

means for generating data to be printed by a printing unit connected via a serial bus;

a first input/output means for outputting a control command to control the printing unit and the print data to the printing unit via the serial bus; and

means for generating a print data transmitting command including selected image data specifying information indicative of a type of the print data transmitted to the printing unit;

the printing unit including:

a second input/output supplied with the print data and control command from the printing control unit; and

means for printing utilizing the print data supplied from the printing control unit via the second input/output means;

the printing control unit controlling the first input/output means to output to the printing unit the print data transmitting command generated by the command generating means;

the printing unit detecting the selected image data specifying information included in the print data transmitting command supplied from the second input/output means via the serial bus, judging, based on the detected print data specifying information, the type of the print data transmitted from the printing control unit, and converting, according to the result of the judgment, the supplied print data from a type transmitted from by the printing control unit to print data of a type supported by the printing means unit,

so as to provide printing support when there is no printer driver compatible with the printer as a target at the printing controller unit.

28.   (currently amended) A printing method in which print data is transmitted via a serial bus from a printing control unit to a printing unit which prints the print data, the method comprising the steps of

receiving moving picture data representative of a plurality of sequential images and for selecting a desired image therefrom;

generating a print data transmitting command including selected image data

specifying information indicative of a type of the print data and outputting the print data

transmitting command from the printing control unit to the printing unit;

detecting the selected image data specifying information included in the print data

transmitting, command transmitted from the printing control unit to the printing unit and judging

the image type of the print data transmitted from the printing control unit;

inputting the print data transmitted from the printing control unit via the serial bus

to the printing unit;

converting, according to the result of the judgment, the supplied print data from a

type transmitted by the printing control unit to print data of a type supported by the printing unit;

and

· printing at the printing unit by the use of the converted print data,

so as to provide printing support when there is no printer driver compatible with

the printer as a target at the printing controller unit.

29.   (currently amended) A printing system comprising:

a printing control unit including:

means for receiving moving picture data representative of a plurality of sequential

images and for selecting a desired image therefrom;

means for generating data to be printed by a printing unit connected via a serial

bus;

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a first input/output means for outputting a control command to control the printing

unit by the use of the print data generated by the print data generating means, and the print data

to the printing unit; and

means for generating a print data transmitting command including print data

specifying information indicative of the image type of the selected image data transmitted to the

printing unit; and

the printing unit including:

a second input/output means connected to the serial bus and to which the print

data and control command are supplied from the printing control unit; and

means for printing utilizing the print data supplied from the printing control unit

via the second input/output means,

the printing control unit controlling the first input/output means to transmit the

print data transmitting command generated by the command generating means to the printing

unit;

the printing unit judging the type of the print data indicated by the selected image

data specifying information included in the print data transmitting command; and outputting to

the printing control unit the result of the judgment indicating whether the type of the selected

image data, indicated by the print data specifying information, is supported by the printing

means; and

the printing control unit outputting, based on the result of the judgment from the

printing unit, print data of a type supported by the printing means to the printing unit,

so as to provide printing support when there is no printer driver compatible with

the printer as a target at the printing controller unit.

30.   (currently amended) A printing method in which print data is transmitted from a printing control unit to a printing unit via a serial bus and printed by the printing unit, the method comprising the steps of:

receiving moving picture data representative of a plurality of sequential images and for selecting a desired image therefrom;

generating a print data transmitting command including selected image data specifying information indicative of the type of the print data and outputting the print data transmitting command from the printing control unit to the printing unit;

detecting the selected image data specifying information included in the print data transmitting command transmitted from the printing control unit to the printing unit;

judging the type of the print data transmitted from the printing control unit;

outputting the result of the judgment, indicating whether the type of the print data, indicated by the selected image data specifying information, is supported by the printing unit; and

outputting print data of a type supported by the printing unit from the printing control unit to the printing unit,

so as to provide printing support when there is no printer driver compatible with the printer as a target at the printing controller unit.

31.   (currently amended) A printing system comprising:

a printing control unit including:

means for receiving moving picture data representative of a plurality of sequential images and for selecting a desired image therefrom;

a print data generating means for generating data to be printed by a printing unit connected to the print data generating means via a serial bus;

a first input/output means outputting a control command to control the printing unit which makes a printing work by the use of the print data generated by the print data generating means, and the print data to the printing unit; and

means for generating a print data transmitting command including selected image data specifying information indicative of a type of the print data; and

a data converting unit including:

means for detecting the selected image data specifying information included in the print data transmitting command supplied from the printing control unit and judging, based on the detected selected image data specifying information, the image type of the print data transmitted from the printing control unit;

means for converting, according to the result of the judgment by the judging means, the print data transmitted from the printing control unit to print data of a type supported by the printing unit, and outputting the converted print data to the printing unit; and

the printing unit including:

a third input/output means supplied with the converted print data and print data transmitting command from the data converting block; and

means for utilizing the converted print data supplied from the third input/output means, so as to provide printing support when there is no printer driver compatible with the printer as a target at the printing controller unit.

32.   (currently amended) A printing method in which print data is transmitted

from a printing control unit to a printing unit via a serial bus for printing by the printing unit, the

method comprising, the steps of:

receiving moving picture data representative of a plurality of sequential images

and for selecting a desired image therefrom;

generating a print data transmitting command including data specifying

information indicative of the type of the print data and outputting the command from the printing

control unit to a data converting block;

detecting selected image data specifying information included in the print data

transmitting command transmitted from the printing control unit to the data converting block;

judging the image type of the selected image data transmitted from the printing

control unit;

transmitting the selected image data from the printing control unit to the data

converting block;

converting, according to the result of the judgment, the supplied print data from a

type of print data transmitted by the printing control unit to print data of a type supported by the

printing unit;

outputting the converted print data from the data converting block to the printing

unit; and

printing at the printing unit the converted print data from the data converting

block, so as to provide printing support when there is no printer driver compatible with the

printer as a target at the printing controller unit.

33.   (currently amended) A data transmitting method in which print data is transmitted from a printing control unit to a printing unit via a serial bus, the method comprising steps of:

receiving moving picture data representative of a plurality of sequential images and for selecting a desired image therefrom;

generating, at the printing control unit, a print data transmitting command including selected image data specifying information indicative of a type of the print data and transmitting the command from the printing control unit to the printing unit;

judging, at the printing control unit, whether the print data of the image type indicated by the selected image data specifying information can be printed or not, based on the response of the printing unit to the print data transmitting command; and

deciding, at the printing control unit, when it has been judged that the print data of the image type designated with the initially designated selected image data specifying information cannot be printed, to include, into the data transmitting command, print data identification information different from the initially designated one and output the different data it transmitting command again to the printing unit, or

deciding, when it has been judged that the print data of the image type designated with the initially designated print data specifying information can be printed, to transmit the print data of the designated type to the printing unit,

so as to provide printing support when there is no printer driver compatible with the printer as a target at the printing controller unit.